

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant	: Hiroyuki KOBAYASHI	Confirmation No.: 7753
Appl. No.	: 10/759,209	Examiner: P.R. Smith
Filed	: January 20, 2004	Group Art Unit: 3739
For	: LIGHT-EMITTING DIAGNOSIS SUPPORT DEVICE	

REPLY BRIEF UNDER 37 C.F.R. § 41.41

Commissioner for Patents
U.S. Patent and Trademark Office
Customer Service Window, Mail Stop Appeal Brief - Patents
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Sir:

In response to the Examiner's Answer, dated August 10, 2007, to the Appeal Brief filed on April 26, 2007, for which a two-month period for filing a Reply Brief under 37 C.F.R. §41.41 is set to expire on October 10, 2007, Appellant submits the present Reply Brief.

Appellant maintains that each reason set forth in the Appeal Brief filed April 26, 2007 for the patentability of the pending claims is correct and again requests that the decision to reject claims 1 and 3-5 be reversed and that the application be returned to the Examining Group for allowance.

REMARKS

The "Grounds of Rejection" at pages 4-9 of the Examiner's Answer dated August 10, 2007 appears to be substantially identical to the "Claim Rejections" (under 35 U.S.C. §103) at pages 2-8 of the Final Official Action dated October 24, 2006. It is respectfully submitted that the Appeal Brief filed April 26, 2007 has fully addressed these rejections and the requirements for patentability under 35 U.S.C. §103. Accordingly, the herein-contained remarks are merely supplemental to the Appeal brief filed on April 26, 2007, and address particularly the "Response to Arguments" at pages 9-13 of the Examiner's Answer. In order to facilitate review of this Reply Brief, the present remarks are limited to a discussion of exemplary independent claim 1 of the present application.

According to Appellant's independent claim 1, a diagnosis supporting device connected to an endoscope system includes a light emitting section, a probe, an image data acquiring section, an intensity measuring system, a calculating section, and a light controller. Characteristic features of the diagnosis supporting device recited in claim 1 include:

- Excitation light and reference light are alternately emitted at intensities varied in response to voltage applied to a light source.
- Fluorescent image data and reference image data are acquired.
- A maximum brightness level from the brightness levels of all the pixels in the fluorescent image data is extracted whenever the fluorescent image data is acquired.
- A maximum brightness level from the brightness levels of all the pixels in the reference image data is extracted whenever the reference image data is acquired.
- A first intensity coefficient based on the maximum brightness level of the fluorescent image data is calculated according to a first operational expression.

- A second intensity coefficient corresponding to the maximum brightness level of the reference image data is calculated according to a second operational expression.
- Intensity of the excitation light is controlled according to the first intensity coefficient.
- Intensity of the reference light is controlled according to the second intensity coefficient.
- The intensities of said excitation light and said reference light are controlled without a variable diaphragm and without a light stop by changing the voltage applied to the light source.
- The first and second operational expressions are determined such that the intensities of said excitation light and said reference light increase as the maximum brightness levels of said fluorescent image data and said reference image data decrease.

In the “Response to Arguments” at page 10 of the Examiner’s Answer, the Examiner asserts that FURUSAWA discloses, either explicitly or inherently, a “light emitting section including a light source that varies intensity of the excitation light and reference light in response to voltage applied to said light source”. However, though FURUSAWA explicitly discloses light sources 22 and 24 that respectively emit white light and UV light, the light sources 22 and 24 are not a light source that varies intensity of the excitation light and reference light as recited in claim 1. For example, even if the light sources 22 and 24 were considered a light source with the characteristics recited in claim 1, such a light source in FURUSAWA does not necessarily vary intensity of either excitation light or reference light in response to applied voltage. Rather, alternative methods (e.g., a diaphragm or light stop) could be applied to vary intensity of excitation light and reference light (when such variation is called for). Additionally, the Examiner has not provided any support for the assertion that light

sources 22 and 24 in FURUSAWA necessarily vary intensity of excitation light and reference light in response to applied voltage, as would additionally be required for the light sources 22 and 24 to inherently possess the characteristics of the light source recited in claim 1. Indeed, the cited portion of HIGUCHI at column 2, lines 54-59 discloses that an aperture of a light quantity restrictor may be controlled to adjust an outgoing light quantity as an alternative to controlling a lamp voltage, evidencing that FURUSAWA does not necessarily vary intensity of excitation light and reference light in response to applied voltage.

In the “Response to Arguments” at page 10 of the Examiner’s Answer, the Examiner additionally asserts that claim 1 does not recite a “forceps” per se, and FURUSAWA therefore need not explicitly disclose a “forceps channel” as recited in claim 1. However, in the context of an endoscope system as in claim 1, a “forceps channel” as recited in claim 1 would be recognized by one of ordinary skill in the art. Inasmuch as claim 1 recites a “forceps channel” through which a probe is inserted, the above-noted assertion by the Examiner is an improper basis for the conclusion that FURUSAWA discloses the “probe... inserted through a forceps channel” as recited in claim 1.

In the “Response to Arguments at pages 10-11 of the Examiner’s Answer, the Examiner further asserts that FURUSAWA inherently discloses both a first intensity coefficient (based on fluorescent image data according to a first operational expression) and a second intensity coefficient (corresponding to reference image data according to a second operational expression). However, as noted consistently during prosecution of the present application, FURUSAWA merely discloses a single instruction used to adjust light amounts of illuminating light and excitation light, and not a first intensity coefficient separable from a second intensity coefficient.

The Examiner’s Answer additionally asserts that it is inherent that FURUSAWA discloses

separable first and second intensity coefficients. However, according to the logic in the Examiner's Answer, one of the coefficients would be "0", which would indicate that there is no reason to require sending such a coefficient, let alone in the context and combination recited in claim 1. Moreover, the cited portion of FURUSAWA, as characterized in the Examiner's Answer, is explicitly cited as using mirrors 25 and 26 to block white light from the light source 22 and provide excitation light from the UV light source 24. Inasmuch as white light and excitation light are to be varied using the mirrors 25 and 26, a command to move mirrors 25 and/or 26 to entirely block light would be used rather than the intensity coefficients recited in claim 1. Further, the above-noted reliance on the teachings of the mirrors 25 and 26 in FURUSAWA also stands in stark contrast to the assertion noted above that FURUSAWA inherently discloses (i.e., requires) that light intensities are varied in response to voltage applied to the light source.

In the "Response to Arguments" at page 11 of the Examiner's Answer, the Examiner further asserts that OZAWA discloses the features of the "image data acquiring section" recited in claim 1. However, OZAWA does not disclose that maximum brightness levels are extracted whenever a set of reference image data and fluorescent image data are acquired, as recited in claim 1. Rather, OZAWA explicitly discloses that an average value detecting circuit 64 is used in conjunction with (as an alternative to) the peak value detecting circuit 63. Moreover, OZAWA also explicitly discloses using aperture control to control light intensity, which starkly contrasts any assertion that voltage control of a light source is inherent in FURUSAWA.

In the "Response to Arguments" at page 12 of the Examiner's Answer, the Examiner contradicts the above-noted assertions as to whether voltage control is inherent in FURUSAWA, by indicating that HIGUCHI only is relied on as disclosing voltage control of a light source, but then

again asserting that lamps in FURUSAWA inherently disclose the voltage control recited in claim 1.

The above remarks are merely exemplary with respect to the numerous deficiencies of the rejection of claim 1. As described above, it is unclear as to what basis is provided for the rejection of claim 1, at least in view of the “Response to Arguments” at pages 9-13 of the Examiner’s Answer. It is also unclear as to what modifications to FURUSAWA are acknowledged to be necessary to obtain the combination of features recited in claim 1, which teachings of OZAWA and HIGUCHI would be applied to obtain the combination of features recited in claim 1, why it is asserted that it would have been obvious to one of ordinary skill in the art at the time of the present invention to modify FURUSAWA with the teachings of OZAWA and HIGUCHI, and why it is believed that modification of the teachings of FURUSAWA with the teachings of OZAWA and HIGUCHI would result in the combination of features recited in claim 1.

In any case, it has been explained during prosecution, and particularly in the above remarks and in the Appeal Brief filed April 26, 2007, that claim 1 is not rendered obvious by the combination of FURUSAWA, OZAWA and HIGUCHI, as applied in the rejection of claim 1. Although the above remarks are directed only to several of the features of independent claim 1, similar errors and inconsistencies are found in the Final Office Action and in the Examiner’s Answer with respect to additional features of independent claims 1. Accordingly, the basis for the rejection of independent claim 1 is unclear, and Appellant has thoroughly explained in the above remarks and in the Appeal Brief filed April 26, 2007 how the Examiner’s interpretation of the teachings of FURUSAWA, OZAWA and HIGUCHI does not render obvious the combination recited in independent claim 1.

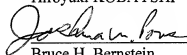
Accordingly, the rejection of independent claim 1 over FURUSAWA in view of OZAWA, and further in view of HIGUCHI, is in error at least for the reasons set forth in the Appeal Brief filed April 26, 2007, as well as for the additional reasons set forth above. The rejections of dependent claims 3-5 are also in error for the reasons set forth in the Appeal Brief filed April 26, 2007, as well as for the reasons set forth above in that they each depend from an allowable independent claim 1.

Accordingly, at least for each and all of the reasons set forth above, as well as the reasons set forth in the Appeal Brief filed April 26, 2007, the decision to reject claims 1 and 3-5 under 35 U.S.C. §103(a) over FURUSAWA in view of OZAWA and HIGUCHI is improper, and reversal of the decision is respectfully requested.

If there are any questions about this application, any representative of the U.S. Patent and Trademark Office is invited to contact the undersigned at the telephone number listed below.

October 10, 2007
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